DOCUMENT RESUME

ED 315 840 EA 021 228

AUTHOR Anderson, Mary B.
TITLE Improving Access to Schooling in the Third World: An Overview. BRIDGES Research Report Series No. 1.
INSTITUTION Harvard Univ., Cambridge, MA. Inst. for International Development.
SPONS AGENCY Agency for International Development (IDCA), Washington, DC. Bureau of Science and Technology.
PUB DATE Mar 88
CONTRACT DPE-5824-A-5076
NOTE 34p.; Project BRIDGES is directed by the Harvard Institute for International Development and the Harvard Graduate School of Education. Other participants are the Institute for International Research, Michigan State University, the Research Triangle Institute, and Texas State University.
PUB TYPE Viewpoints (120) -- Information Analyses (070)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Access to Education; *Developing Nations; Educational Demand; Educational Supply; Elementary Secondary Education; Foreign Countries; *School Holding Power
IDENTIFIERS *Africa; *Asia

ABSTRACT

Literature on access to education in Africa, Asia, and Latin America is reviewed. Policymakers face the choices and issues raised by limited economic resources. Variables are identified that educational policymakers can manipulate to achieve desired outcomes in access and retention levels. The determinants and contextual conditions that support or impede the achievement of these outcomes are specified. This booklet is divided into three parts: (1) Educational Goals and Access; (2) Factors Influencing Access; and (3) Policies to Improve Access. The third section is directed toward policies that affect the supply of education and the effective demand for education. A brief overview of the discussion and a perspective on further work in the area of access are included. The bibliography contains 91 citations and a supplementary bibliography contains 44 entries. (SI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED315840

Third World: An Overview*

Mary B. Anderson

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

* Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

B • R • I • D • G • E • S
Basic Research and Implementation in DevelopinG Education Systems

A project of the Harvard Institute for International Development,
the Harvard Graduate School of Education,
and the Office of Education, Bureau for Science and Technology,
United States Agency for International Development

EA 021 228

The Basic Research and Implementation in DevelopinG Education Systems Project (BRIDGES) is directed by the Harvard Institute for International Development and the Harvard Graduate School of Education, under Cooperative Agreement No. DDP-5824-A-5076 with the Office of Education, Bureau for Science and Technology, United States Agency for International Development. Also participating in the Project are the Institute for International Research, Michigan State University, the Research Triangle Institute, and Texas Southern University.

The BRIDGES Group includes educators, researchers, planners and policy makers committed to improving opportunity and quality in Third World schools. The goal of their collaborative effort is to identify policy options that will increase children's access to schooling, reduce the frequency of early school leaving and repetition, improve the amount and quality of what is learned, and optimize the use of fiscal and educational resources.

The *BRIDGES Research Report Series* is edited by the Harvard Institute for International Development. The *Series* is a collection of reviews of the state-of-the-art in research and original research reports on basic education in developing countries. Each review summarizes research about a particular policy issue and suggests policy options. Original reports on BRIDGES-sponsored research present new information about the impact and costs of specific alternatives that the reviews have identified as most promising.

Publication of this particular research review inaugurates the *Series*. The views expressed in this document are those of the author and do not necessarily reflect those of the United States Agency for International Development.

"Improving Access to Schooling in the Third World: An Overview"

Mary B. Anderson

With research assistance from
Meena Balasubraminiam and
Tracy Tokuhama

Prepared for Project BRIDGES
(Basic Research and Implementation in DevelopinG Countries)

Harvard University
Cambridge, MA

4

USAID Contract DPE-5824-A-5076

Foreword

. It is fitting that this first publication in the *BRIDGES Research Report Series* focuses on the issue of determinants of access to education. Later publications will examine problems of the quality of education, with attention to policy options in learning technologies, school organization and management, supervision, teacher training, classroom management practices, and other ways in which learning outcomes can be improved. But for many countries the quantity problem still looms large. Despite heroic efforts, as Mary Anderson points out, some children never enroll in school and many do not finish the first cycle.

At first glance, limited enrollments are strictly a problem of schools and teachers; the supply of education is too limited. Building more schools and training more teachers is the obvious, and obviously costly, response. For the poorest countries this appears to put improvements in access beyond reach. But ultimately the supply of education is a function of demand for it, and not simply a function of a country's income or wealth. Some developing countries have achieved full enrollment (for both boys and girls) with per capita GNP levels less than those of other countries still far from enrolling all their children in 1st grade. In almost all cases universal enrollment has been accomplished by mobilizing local resources to supplement state revenues: family expenditures on public education have in many cases been as large as state expenditures. Although cultural factors have been important, state policies have made teaching a profession that attracted highly qualified and motivated persons. In all of these cases, social demand for education was extremely high, and both state and families were willing to forego other uses of income in order to educate *all* children.

A second approach to expansion of supply has been to look for more cost-effective ways of delivering educational services. These include new methods of training and supervising teachers which can lower the cost per student or increase levels of learning or, in the best of circumstances, both. These "low cost learning methods" have attracted much attention recently,[1] and will be the subject of a future paper in this series.[2] Other options include distance education methods which appear to be cost-effective (that is, raise levels of learning at a relatively low unit cost) but which do not lower overall costs per student.[3]

But mere expansion of the total supply of education does not insure that access will improve for all groups in society. For example, an examination[4] of trends in the ratio of girls to total enrollments indicates that some countries that have expanded overall enrollments rapidly have done so by favoring boys over girls, reducing the proportion of girls in schools.

Futhermore, enrollment rates depend not just on opportunities to enroll, but also retention in school. Completion of each grade in one year is the best guarantee that a child will complete the primary cycle. Dropout rates vary in direct proportion to failure rates, or, in other words, demand for education declines when children experience failure. Dropout rates vary considerably, by gender, urban versus rural, and social class, in some measure because of differences in family demand for education, but also because of differences in the treatment children receive in school as a function of gender, place of residence, or social class. In countries where most children enter school but many drop out, efforts to improve retention can have more impact on the overall enrollment rate than efforts to increase opportunities for enrollment.

These are some of the complex relationships that must be taken into account in choosing among policy options to improve access. Instead of just summarizing the limited findings of research with respect to how different policies affect access, Anderson presents a framework for a program of research that considers the following pairs of interactions:

- policies to increase supply *versus* policies to increase demand;
- policies to increase overall enrollments *versus* policies that increase enrollments of groups currently underrepresented;
- policies to improve opportunities to enroll *versus* policies to increase retention of those who do enroll.

Among the important policy questions that should be considered in this research are the following:

1. Larger schools may be more cost efficient, but result in locating schools further from students, reducing the likelihood of attendance (especially by girls). What is the optimal size for a school in order to balance cost with access of (female) students?
2. Does the physical condition of a school make any

difference to the community it serves? What is the optimal maintenance cost to maximize enrollments?

3. Some countries have had considerable success in mobilizing community resources to purchase school furnishings-how important are furnishings to enrollment and retention of students, and what policies most enhance local support?

4. What is the optimal package of physical facilities (e.g., residence) that will attract (women as) teachers to rural schools (and therefore increase girls' enrollments), while keeping costs down?

5. What is the optimal level of qualifications to attract rural women into teaching while keeping costs down?

6. What is the makeup of the minimal package of instructional materials that should be provided by the state (or supported through other means) in order to insure maximal enrollment and retention of students from poor families?

7. Under what circumstances are school fees a feasible means to mobilize resources that generate increased opportunities for schooling?

8. What is the impact of supervisors and school headmasters on retention of students (and overall learning outcomes)? Could funds currently spent on supervision and school administration be better spent on hiring more teachers?

9. Could access to schooling be increased (or class sizes reduced) by putting all schools on double shifts without significant reduction of learning outcomes?

10. Can more qualified persons be attracted to the teaching profession by offering higher salaries or other financial incentives? Would the expected gains in improved quality compensate for the increased cost and subsequent reduction in supply of schooling?

11. Does the gain in retention that results from a policy of automatic promotion offset the assumed costs that result from reduced quality?

12. Research is inconclusive with respect to the optimal student/teacher ratio; an increase in class size would free resources to staff more schools. How large can class sizes be before there is a significant decline in teacher performance and learning outcomes?

13. Many rural schools have small student/teacher ratios because of low population density. This increases unit costs and limits overall access. What combination of distance education methods would provide the same quality of education, reduce unit costs and increase access?

These are some of the policy issues suggested by a reading of this paper. Existing research on issues of access provides little in the way of definitive recommendations; Anderson makes up for this deficiency by generating a richly suggestive framework for identification of policy options. The door is now open; future issues of this *Series* will deal with specific options to maximize the outcomes of schooling.

Noel F. McGinn
February 22, 1988

FOOTNOTES

[1]For example: Cummings, William, "Low-Cost Primary Education: Implementing and Innovation in Six Nation," International Development Research Center, Ottawa, Canada. 1986.

[2]Pasigna, Aida, and Sivasailam Thaigarajan. "Literature Review on the Soft Technologies of Learning." Project BRIDGES, Harvard University, 1986.

[3]Anzalone, Stephen. "Using Instructional Hardware for Primary Education in Developing Countries: A Review of the Literature." Project BRIDGES, Harvard University, 1987.

[4]Cuadra, Ernesto. Work in progress for Project BRIDGES, Harvard University, sponsored by the Women and Development Office, U.S. Agency for International Development. 1988.

Table of Contents

Executive Summary **2**
Section I: Introduction **3**
Definition of Access 3
Purpose of Paper 3
Structure of Paper 3
Section II: Educational Goals and Access **4**
Rationales for Access Policies 4
Implications for Access 4
Access Literature and Educational Goals 4
Access Literature 5
Concluding Comments 6
Section III: Factors Influencing Access **7**
Factors Influencing General Access 7
Increasing Efficiency 7
Access Implications of Limited Resources 7
Factors Influencing Participation 8
Remoteness 8
Poverty 9
Family Wealth and Educational Attainment 9
Poverty and Educational Cost 9
Poverty and Child Labor 9
Poverty and Academic Performance 9
Poverty and Remoteness 10
Poverty and Retention 10
Gender 10
Cultural Attitudes and Social Roles 11
Education for Females and Their Economic Roles 11
Within School Effects on Female Education 12
Gender and Family Wealth 12
Intra-Family Composition/Birth Order 13
Race and Ethnicity 13
Religion 13
Handicaps and Needs for Special Education 14
Children in Motion 14
Concluding Comments 14
Section IV: Policies to Improve Access **15**
Policies to Affect the Supply of Education 15
Economic Growth 16
Economic Growth and Equity 16
Equity 16
Unintended Consequences of Policies 17
Policies to Affect the Effective Demand for Education 17
Section V: Conclusion **19**
Bibliography **21**
Supplementary Bibliography **25**

Executive Summary

The paper reviews the literature on access to education in Africa, Asia and Latin America. Access is defined to include entry into school, retention in school and quality education.

Two rationales exist for government policies of access: education for all children is valued as a basic right; education is a means to achieving other goals, usually economic and social development and political, national integration.

Although access is basically a problem of insufficient resources, research clearly shows that distinct patterns of access to or exclusion from education exist in most societies. Eight factors that affect differential access are identified. These include: 1) remoteness of residence: rural children consistently have lower educational opportunity than urban children; 2) poverty; 3) gender: girls almost universally receive less schooling than boys; 4) intra-family composition and birth- order; 5) race or ethnicity: groups who are disadvantaged in general in a society due to prejudice, are also disadvantaged in terms of educational access; 6) religion: norms and values can be used to determine exclusion of some groups from schooling; 7) handicaps: sometimes societies "excuse" children with physical or mental handicaps from school; and 8) children in motion: it is difficult for school systems to supply stable schooling to nomads and refugees as they travel or take up temporary residence.

...research clearly shows that distinct patterns of access to or exclusion from education exist in most societies.

Policies that address access issues can focus either on increasing the supply of education or on changing the effective demand for education. The paper describes policy attempts to overcome access problems via case studies of their impacts. The research shows that when policies focus on a single factor affecting the demand for education, some improvement may result in access but often brings unintended consequences that reinforce existing patterns of access and exclusion.

Three guides for policy makers emerge from the review. First, the fact that patterns of demand differ among different groups in societies as a result of historical/economic forces is noted. Second, research in Egypt suggests that patterns of demand are repeated from generation to generation so that, once having identified the groups who do not send their children to school, policy makers can focus their efforts on these groups rather than having to consider all possible determinants of access. Third, when policies are developed to improve access, they should take into account the interaction of factors that cause families to keep their children away from school or to enroll them. Policies which focus on single determinants of demand, even where these are clearly important, often fail.

Suggestions for future research include conducting case histories of successful and less successful policy initiatives as well as studies that directly involve the very groups who have been excluded in order to determine why they have kept away from school. Also, systematic comparative studies of policies undertaken to improve access are called for.

Section I: Introduction

Among the principal goals of educational policy in the countries of Africa, Asia, and Latin America, improving and extending access to education is one of the most universally accepted. From the 1960's to the present, the provision of schooling has markedly increased. But, while both absolute numbers and overall percentages of children in school have risen, the number of children not in school remains high and, in some instances, has also risen.

Definition of Access

Access to education has two basic dimensions: opportunity and participation. The first dimension, opportunity, refers to the supply of educational resources such as schools, instructional materials, and teachers. Limited educational access often results from limited educational resources. When this is the case, educational policymakers try to supply the greatest educational product for the lowest possible cost. This means that difficult choices must be made among educational priorities and alternative means of pursuing these priorities explored. However, experience shows that educational policy choices often have differential impact on children, improving opportunities for some while disadvantaging others.

The second dimension of access, participation in educational opportunities, refers to the effective demand for education when education is available. Educational demand is often determined by cultural, family, and individual factors which can facilitate or inhibit initial enrollment and/or continuation in school. Both the initial enrollment and retention of the student in school are aspects of this dimension of access. Cross-system comparisons of educational access reveal different patterns of access and retention among wealthy/poor, male/female, and urban/rural children.

Purpose of Paper

Access to education is important because of its relationship to both economic development and social equality and justice. We shall examine access studies of interest to policy makers who face the choices and issues raised by limited economic resources and who are concerned about differential policy impacts. The purpose is to identify the variables that educational policy makers can manipulate to achieve desired outcomes in access and retention levels and to specify the determinants and contextual conditions that support or impede the achievement of these outcomes.

Structure of Paper

The research literature on access and retention in education falls into three groups. First, there is a body of literature that deals with the purposes of education and the associated justifications for increasing access to education. In general, research in this area is not definitive. There are many areas of conflicting findings resulting in little certainty about the justifications for increasing educational opportunities. This is discussed more fully under Section II: Educational Goals and Access.

The second area of literature addresses the opportunity and participation dimensions of educational access. It specifically identifies and analyzes the patterns of access to and exclusion from educational systems. This body of literature is extremely rich, and helps to identify and clarify these patterns, their causes and possible solutions. This will be discussed in Section III: Factors Influencing Access.

The third area of research describes and evaluates policies and programs designed to increase access and improve retention in schooling systems. These studies are helpful in identifying the possibilities and pitfalls of different approaches to improving access. This literature is not comprehensive because only a few initiatives have been carefully analyzed and published reports on them are few. There is a real need for a systematic and comparative review of policies to increase access. The existing literature is discussed in Section IV and deals with the design and implementation of policies to improve access. Section V concludes the paper with a brief overview of the discussion and a perspective on further work in the area of access.

While both absolute and overall percentages of children in school have risen, the number of children not in school ...has also risen.

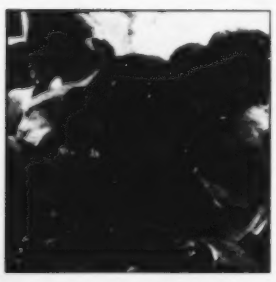
Section II: Educational Goals and Access

In Africa, Asia, and Latin America, virtually every Ministry of Education has a declared policy commitment to providing universal access to education to all citizens, regardless of wealth, location, age, sex, religion or ethnic group (Malakpa, 1986; UNESCO, *Fourth Consultation*, 1985). These commitments usually have a number of components: 1) to extend access (increase the number of places in school, particularly to as yet unreached groups); 2) to equalize access (adopt non-discriminatory approaches to rationing existing places among children of all groups); 3) to improve and equalize the quality of education among schools; 4) to improve and equalize retention rates and the opportunity for promotion within the educational system for all groups; and 5) to improve and equalize the chances for successful employment after school.

Rationales for Access Policies

Governments adopt policies to expand and equalize access to education with two distinct purposes in mind. First, they see education as a goal, in and of itself, either as a basic human right or as a benefit resulting from development. From an individual's viewpoint, education is expected to lead to other benefits such as advancement in society at large. Education is one aspect of a good life, to be guaranteed to all citizens as a right (UNESCO, *Fourth Consultation*, 1985). The wealthier the society, the more of its citizens it can afford to educate.

Second, policy makers see education as a means to achieving other goals, including development and national integration and identity (Lynch, 1986, p.8). A better educated citizenry is thought to be economically more productive and politically more stable (Adelman and Morris, 1973) so that investments in education are seen to "pay off" in terms of increasing development and national stability.



Which investment is better: to provide a little education to all of the people,...or higher education to fewer?

Implications for Access

The policies and approaches chosen for extending access to education as a right sometimes differ from those chosen to improve access to education as a means toward further development. When education for its own sake is the goal, resources are used to realize the greatest educational return in terms of the internal efficiency and/or effectiveness of schools. When education is intended to achieve other developmental goals, the choices among different types of educational inputs require more precise knowledge about which education, and of whom, will produce the desired results.

Both of these approaches have important implications for questions of access-i.e., who receives education in the society, how much and of what type (academic vs. vocational) and quality? Which is the better investment: to provide a little education to all of the people, to provide more education to most of the people, or to provide higher quality education to fewer, but more strategically placed people?

A great deal of research has been done on these issues. Examination of this research, however, produces no certainty for educational policy makers in developing countries about the causal direction, magnitude or immediacy of the relationships between education and development.

Access Literature and Educational Goals

The research literature on access as it relates to educational goals, can be divided into two groups reflecting the two basic purposes of government policies to improve access. The perspective of education as a goal, in and of itself, to be made available to all people as a matter of social justice often links access and equity as a single concept. Articles written from this perspective focus on the interactions between economic and political inequality and education. Models detailing how socio-economic status determines access to education or how educational attainment determines social and economic achievement and status reflect this perspective (Heyneman, 1983; Court, 1975; Weis, 1979; Oxenham, 1984; Ginsburg and Arias-Godinez, 1984; CERID, 1984; Singh, n.d.; King, 1981; Brenner, 1982).

The second perspective in the literature focuses on education as a resource for development. Writers in this group usually rely on human capital analysis to justify the extension of education to previously excluded groups because it can be demonstrated that education is a good investment with favorable rates of return. Human capital analysis is carried out from two perspectives: a) that of the individual or family that justifies the expense on education in terms of expected increases in lifetime income; and b) that of the society that justifies public expenditures on education in terms of expected increases in productivity and/or social benefits gained from an educated population (Adams, 1980; Monchar, 1981; Dixon, 1975; Ram, 1979; Kelly, 1986; Walters, 1981; Lockheed, Jamison and Lau, 1980; Behrman and Birdsall, 1983; World Bank, *Strategies*, 1985; LeVine, 1980). The latter approach often justifies education as the means to support national identity and unity as well (Bray and Cooper, 1970; Barnes, 1982; Bowles, 1971).

Access Literature

Writers in both groups attempt to justify the expansion of access to education in the terms they propose; either by referring to the impact of expanded education on overall social and political equality, or by showing how expanded access leads to a more productive population. However, the research results are not definitive. For every article demonstrating that education provides an avenue for advancement for poorer people in society (Heyneman, 1983, p.409 for example), others show that this is not the case. For example, some research shows that educational systems reproduce and reinforce the structures and inequities of the societies they serve (Oxenham, 1984; Weis, 1979; Smith and Cheung, 1982). Others show that family socio-economic status is an exceedingly important, and sometimes the single most important, determinant of access to education in terms of entry, retention and quality, thus reinforcing a cycle of educational access (or lack of it) from generation to generation (CERID, 1984, p.92; Brenner, 1982; Smith and Cheung, 1981; Singh, n.d.; King, 1981).

Other studies challenge the effectiveness of education in improving social mobility and social equity in other ways. Some show that, as access to education is expanded, it becomes increasingly necessary for individuals to attain more and more education in order to get the jobs they previously could have gotten with less. The poor cannot use education to advance because the very act of increasing educational opportunity to the poor "has the effect of lengthening the obstacle course of education and favoring those best able to sustain a longer or more costly race, . . . (in other words) the well off and the well connected." (Hirsch, 1978, p.50).

There is also disagreement regarding the role of public subsidies to education as these may reduce or exacerbate inequality in societies. Psacharopoulos (1982) finds that such subsidies to higher education have increased inequality while Ram (1982) disputes the magnitudes of Psacharopoulos' findings. Ram finds that public support of primary education has had an extremely important equalizing effect, while support to secondary education has been extremely disequalizing, and support to tertiary education has been somewhat disequalizing – but less so than Psacharopoulos estimates.

Similarly, studies that deal with the causes of school achievement, important for retention in that school achievement at each level determines who goes on to the next level, also produce different and conflicting results. Some show that home background variables are the principal influences on school achievement, while others show that school-based factors are more important (Toomey and Heyneman cited in Niles, 1981, pp.419 ff.; also World Bank, *Brief*, 1985). Niles attempts to reconcile these conflicting findings by introducing a number of possible explanations for the variance. These include such things as the extent or range of difference among families of different socioeconomic levels, the degree of closeness or discontinuity between homes and schools in different societies, urban and rural differences, etc. (Niles, 1981, pp. 427–8). However, because such "explanations" introduce an almost unlimited number of contextual variables they are context specific. It is, of course, necessary to determine which variables are critical in any specific context. But this very necessity renders it difficult if not impossible to make generalizable results upon which to predict educational impacts.

Some (studies) show that, as access to education is expanded, it becomes increasingly necessary for individuals to attain more and more education in order to get the jobs they previously could have gotten with less.

Studies that attempt to justify the extension of access to education to higher levels (Psacharopoulos, 1982), or to new populations (Noor, 1981), on the basis of favorable rates of return also are contradicted by other studies which show that such rates of return fall rapidly as the expansion of education proceeds (Loehr and

The answer depends as much on one's vision of the desired society,... as it does on scientific research findings...

Powelson, 1981; Hirsch, 1978). Nonetheless, there is a sizable literature that shows positive correlations between educational attainment and other desired outcomes such as increased earnings (e.g., referred to in Behrman and Birdsall, 1983) and productivity (World Bank, *Strategies*, 1986). Others show that educational attainment of women is positively related to reduced fertility, improved family health, and attributes of mothering (LeVine, 1980; World Bank, *Strategies*, 1985; Dixon, 1975; Kelly, 1986; etc.).

Concluding Comments

In sum, the studies that attempt to relate education to social equity seem, on the whole, to show that education does not necessarily lead to expected improvements in all social settings. The studies that attempt to relate education to economic and other social outcomes seem, on balance, to find evidence that the correlations are positive. However, the number of variables to be considered and the variations among societies make it difficult to "prove" that one or another policy for extending educational access *always* results in predictable outcomes. Differences in levels of development, cultural characteristics, and educational histories (including education under colonialism), affect the level of social equality, economic productivity, or national cohesion produced by a particular policy.

It is not surprising that the access literature cannot agree on the outcomes of various educational investments. Embedded in this issue is the classic and unresolved development question of the relationship between growth and equity. Will expanded and equal access to education increase overall productivity faster and more effectively than concentrated educational investments? The answer depends as much on one's vision of the desired society, and beliefs about which trade-offs are acceptable and which are not to attain the desired society, as it does on scientific research findings derived from studies of other countries. Educational policy makers balance the provision of education as a benefit of and as a means to development in different ways, depending on their countries' strategies for development.[5]

Whatever the research findings, governments will (and undoubtedly should) continue to adopt policies designed to increase access to education, reduce wastage, and improve overall quality. They will do so both because they believe that there is a direct relationship between educational attainment and development, as well as because they feel it is "right." It even appears that the real purpose served by the research efforts that justify expanded access as it relates to another goal, is to provide the arguments that policy makers need to defend educational policies already enacted for political and ethical reasons.

[5]Court's comparison of the attempts of Kenya and Tanzania to design educational policies to overcome inequalities in their systems is an example of this type of balancing. (Court, 1975.)

Section III: Factors Influencing Access

How well do the governments of Africa, Asia, and Latin America achieve their goals of universal and equal access to primary education? What is their record in terms of improving retention rates for all groups in their societies? How well do they provide access to secondary and tertiary education?

In general the developing countries have made significant strides in providing schooling to their children. Between 1960 and 1985, enrollment rates for children between 6 and 11 years of age went from 32.7% to 65.9% in Africa, from 54.4% to 73.6% in Asia and from 57.7% to 83.5% in Latin America and the Caribbean (The Hunger Project, 1986, p.4). In all cases, access to primary education is far more extensive than to higher levels and, with the exception of primary school levels in Latin America, in all circumstances girls lag behind boys in access.

The collection of data on educational access over the past decades is extensive and shows a general increase in all countries. It also shows that governments have not yet achieved their stated goals of universal and equitable access for all groups. Certain patterns of disadvantage appear as virtually universal. To analyze and understand the reasons that governments have not met their educational access and retention goals, it is necessary to make several important distinctions. These are: between general and differential access and retention; between "visible" and "invisible" patterns of access and retention; and between access and retention patterns that arise from insufficient or inefficiently used resources (supply-side) and those that result from differences in the demand for education. These will be discussed below as influences on the opportunity for access and participation in education.

Factors Influencing Opportunity

When governments make their goal the education of all children, but the number of places in schools (or the number of teachers, or supplies) simply do not match the numbers of school-aged children, then the problem is clear and visible to policy makers. It is simply one of insufficient resources.

Solutions, however, are less simple. One may increase the allocations to education and bring the supply of schooling into line with the need. Given the national budgets of most African, Asian, and Latin American countries, however, this "solution" is unrealistic. Therefore, solutions must be found in policies and programs that increase the efficiency of existing resources. Such policies may extend and improve education without additional costs or they may allocate limited resources among educational priorities in ways that serve both educational and developmental goals effectively and are, at the same time, perceived to be fair.

Increasing Efficiency

Increasing the efficiency of resources may entail the development of new approaches. Teachers may receive lower cost training. Schools may be put on double shifts. New learning technologies may be developed. More efficient management systems may be devised. The experiments and experiences to expand both the quantity and quality of education without increasing costs are many. Although discussion of these lies outside the scope of this review, they are discussed in other papers in this series (see *Bridges Research Report Series).*

In all cases, access to primary education is far more extensive than to higher levels and, with the exception of primary school levels in Latin America, in all circumstances girls lag behind boys.

Access Implications of Limited Resources

Allocating limited educational resources efficiently and fairly among those of school age also entails choosing alternatives. Policy makers set priorities according to the educational and developmental goals they pursue and allocate resources accordingly. They set priorities among levels, locations, and types of education to be provided. By definition, some children will receive more and some less through the setting of these priorities.

A study...in Nepal found that for every kilometer a child had to walk to school, the possibility of that child attending school dropped 2.5%.

In addition, educational planners are forced to face increased demand for education at higher levels in a later period. If, for example, they choose to concentrate resources on schooling at the primary level, they soon face a demand for expanded opportunities in secondary, then tertiary, education. The relative unit cost structure of the three levels has been estimated by Psacharopoulos (1982, p. 154) to be 1:4:16 for developing countries. Thus, expansion of primary education may be seen as a relatively "cheap" policy but, as successful completers seek promotion to higher levels, the increasing cost implications are serious.

Because of limited resources it is necessary to ration the available spaces in secondary and tertiary institutions among the many who want them. Education systems must establish both efficient and equitable ways to do this rationing. System-wide examinations are usually used. For the rationing system in higher levels to be *perceived* by the population as equitable, it is necessary that all children should have an equal chance at success (Court, 1975, p.27). Thus, the issue of the relative quality of education received in various schools arises. Those whose primary schooling has been of superior quality tend to move ahead because they perform best on qualifying and promotion examinations.

Experience shows that no educational system has successfully equalized quality across all schools. Some (Sri Lanka for example) introduce examinations at earlier grade levels and use the results to prompt transfers of qualified children to better schools. While this policy gives all children an opportunity to gain entry to a quality school, it reinforces the inequalities among schools as it siphons the best students away from poor schools and concentrates them in the better ones. Because the best teachers and principals are sometimes also "rewarded" by promotion to the best schools, the disparity in quality among schools is further reinforced.

The intent of these efforts to use limited resources more efficiently or to equalize opportunity for education is to extend educational opportunities to the people in general. Each activity may have unpredicted consequences in terms of their impact on different groups within the society.

Factors Influencing Participation

While educational policies are generally devised to affect the total education system, evidence indicates that certain groups in virtually all societies are disadvantaged in terms of both access to education and the opportunity to complete the various levels of education. In some cases, disadvantage is due to insufficient resources. In other cases, differential impact is a result of educational policies that are embedded in social/economic/political relationships and interactions in the society. Because of their embeddedness, these relationships have been "invisible" to policy makers.

The literature on educational access and retention is extremely helpful in identifying eight factors which determine differential access and retention. As will become clear from the discussion below, these often overlap, compounding the problems of access for certain groups.

Remoteness

The first factor that limits access to education is remote ness. Data clearly show that, in all systems, rural children's opportunity for schooling lags behind that of urban children (CERID, 1984; ICED, 1974; Court, 1975; Robinson, et al., 1986; CERID, 1983).

Schools have generally been built first in cities and towns where the population density is greatest so that the most children are served. Only then have they been built in the hinterland. Sometimes the priority placed on urban schooling reflects the political pressures applied by urban populations on education ministries while rural populations (who are also often poor) have less political influence. Even where schools are built in rural areas, the fact that populations are dispersed means that rural children usually have further to travel to their schools than urban children.

A report prepared by the International Council for Educational Development (ICDE) for UNICEF in 1974 on new strategies for serving rural children lists five impediments to education in rural areas. These are: 1) a general lack of resources including teachers, materials, facilities, and equipment; 2) a lack of reinforcement for education in the local environment; 3) language problems when the curriculum is in a national (and usually urban) language while rural areas retain use of other languages; 4) a standardized curriculum established centrally that is irrelevant to rural life; and 5) the household and production chores of children in rural areas that compete with the school schedule (ICED, 1974). Other studies show that topography can impede school attendance as well (CERID, 1984, p.165).

A study of factors determining educational participation in rural Nepal found that for every kilometer of distance that a child had to walk to school, the possibility of that child's attending school dropped by 2.5% (CERID, 1984, p.176). Another study in Egypt showed that the critical distance that affected school participation was between 1 and 1.5 km. If a school were 1 km. away, 94% of boys and 72% of girls enrolled; if a school were 2 km. away, 90% of boys and 64% of girls enrolled (Robinson, et al., 1986, p.A-59). Other studies show

that distance affects girls more than boys and younger children more than older children (CERID, 1984, pp. 140, 177).

Generally in rural areas, girls born to poor parents are in the worst educational position. Of every 100 girls in these circumstances only 5 will complete the 4th year of primary school (Adams, Nov. 1980, p.vi). The International Council for Educational Development estimates that fewer than one-half of rural children in most countries and as few as 10% in many countries complete four or more grades in school (ICED, 1974). Evans (1981) quotes reports that urban enrollment rates exceed rural rates by as much as 20 to 100%.

Poverty

The second general factor in limited access is poverty. Poverty often goes hand in hand with limited educational attainment and low occupational status of parents. In all countries, children of poorer families are less apt to attend or complete school than children of families who are better off (Robinson, et al., 1986; Singh, n.d.; Waweru, 1982; Clark, 1981; King, 1981; Moock and Leslie, 1985; Adams, Oct. 1980; Brenner, 1982; Smith and Cheung, 1981).

- **Family Wealth and Educational Attainment:** One study of families in India and Nepal found that in the richest 10%, rates of enrollment exceed those of the poorest 10% by 50 to 100% (and that the rates are 3 to 5 times higher for males than for females in these circumstances) (Evans, 1981, p.236). Another study in the Philippines found the father's level of schooling to be the single most important determinant of rural children's school participation (Smith and Cheung, 1981), while another (King, 1981) found that the mother's education and the father's wage were critical determinants. In Liberia, parents' wealth and attitude toward schooling were found to be very strong determinants of school attendance for children below age 14; after 14, children apparently more often made the decisions about school participation for themselves (Brenner, 1982). For poor families in Egypt, the cost of schooing is the reason most often cited by parents for failure to send their children to school; as wealth increases, the reasons switch to the perceived irrelevance of the education and distance from school (Robinson, et al., 1986). In Nepal, educational attainment of parents, correlated with income level and attitudes toward education were found to be the most important determinants of non-participation in schooling (CERID, 1984; Lockheed and Jamison, 1979).

- **Poverty and Educational Cost:** Families pay for the education of their children in two ways. First, they make direct outlays for school fees, supplies, uniforms, etc. Second, they incur indirect or opportunity costs in the form of foregone household labor or earned income of a child in school. For poor families either or both types of costs may be prohibitive. In some cases, families decide to educate some, but not all, of their children because of costs.

Even when schooling is ostensibly "free," there are often direct expenses involved. Research shows that such expenses, in the form of activities fees, examination fees, uniforms, paper and pens (if not textbooks), transport, lunches, gifts expected by teachers, furnishings for rooms in boarding schools, etc., often result in the exclusion of poorer children from school (Nkinyangi, 1982; Tilak and Varghesa, 1985).

Other education costs are hidden. For example, to increase the chances for getting into higher grades, parents hire private tutoring for their children; children of families who cannot afford this extra instruction are disadvantaged at times of promotion (G.B. Gunawardena, personal communication).

For families to decide to bear the costs of educating their child(ren), they must perceive that the returns from education will make the expenditure worth it either in terms of increased future income, increased overall household productivity (because the educated family member(s) provides access to other resources such as credit, understanding of the correct use of fertilizers and pesticides, etc.), or in prestige (Baramki,1986). Sometimes, families educate only one of their children in order to have one family member who can read, write, and deal with the educated world of lawyers, tax collectors, and government functionaries (Ashby, 1985).

- **Poverty and Child Labor:** Many studies have found that the necessity for children to perform economically important tasks that support household survival limits school participation (CERID, 1984; Smith and Cheung, 1981; Chamie, 1983; etc.). This is more often a problem for rural children than for urban, with the possible exception of urban squatter groups where the income earning activities of all family members are important for family survival. One study (Clark, 1981) of time use by children in and out of school in Guatemala found the necessity to work explains non-participation in school for older boys but does not alone account for non-participation in school for other children. In the Philippines, 15% of male and 9% of female children in rural areas are in the paid labor force by necessity and cannot attend school. In addition, some 63% of rural children are involved in unpaid agricultural labor for their families to the detriment of their school participation (King, 1981, p.1).

- **Poverty and Academic Performance:** Poverty also negatively affects children's performance in school. Malnourished children perform less well than their better

off peers (King, 1981; CERID, 1984; Moock and Leslie, 1985; Jamison also cites research in Guatemala that shows a similar result; Jamison, 1981).

When families depend on the labor of children for survival, the time required for work reduces the time available for academic study. When the children do go to school they often have a great deal of work to do when they return home in the evenings and, therefore have no time to do homework. The lack of academic study time is reflected in lower academic performance.

• **Poverty and Remoteness:** Poverty and remoteness are usually linked, as income levels in rural areas are almost uniformly below those of urban areas. One reason it costs more to provide schooling in rural areas is because of the frequent necessity of providing incentive pay to get teachers to accept service in remote areas. Also, the distribution of supplies and equipment to remote areas costs more. If any of these costs of education are borne privately rather than being subsidized through public funds, then the per capita costs of education to rural poor families can be higher than to wealthier urban families. Thus, both direct educational costs and opportunity costs are higher in rural areas than in urban areas.

• **Poverty and Retention:** Poverty also affects retention in school. Parents who send a child to primary school, sometimes cannot or will not bear the increased opportunity cost of continued schooling when the child is older and more productive in the family (CERID, 1984, p.140; King, 1981, p.20).

Low educational attainment and poverty often go together, since children from poorer, less educated families do not receive parental encouragement for schooling (Bowman and Anderson, 1980, p.26). In all cases where poverty and wealth influence who can enter and continue in school, the influence is a demand side influence. Families determine whether or not to send their children to school based on their perceptions of the relevance of and likely returns from education. For all of these reasons, children from poorer families are more apt to drop out of school than children of better off families.

Gender

The third determining factor of differential access to and retention in schooling is gender, with entry, participation and completion rates of girls in general being lower than those for boys. UNESCO gives the following enrollment ratios for 1960 and 1975 by age and sex:

Continent	Age 6–11		Age 12–17		Age 18–23	
	M	F	M	F	M	F
Africa						
1960	41	25	23	11	3	1
1975	59	43	39	24	8	3
South Asia						
1960	60	35	27	12	5	2
1975	71	50	38	22	10	4
Latin America						
1960	59	58	39	34	8	5
1975	78	78	58	54	22	18

Quoted in Bowman and Anderson, 1980, p.11.

The overall improvements in access to schooling are impressive, but it is clear that certain areas lag consistently behind others. By 1980, Kelly (1986, p.5) reports that the male/female enrollment rates were as follows:

– for ages 6–11: in Africa, 69% for males and 56.5% for females; in Asia 77.4% for males and 59.3% for females; in Latin America about the same for males and females.

– for ages 12–17: in Africa, 44.1% for males and 30% for females; in Asia 43% for males and 29.7% for females; and in Latin America, 65.4% for males and 62.7% for females.

While the enrollments of girls have increased and, in most countries, gained relative to boys, girls are still disadvantaged in education. Whereas their enrollments in schools at all levels increased 300 million between 1950 and 1985, the number of girls not in school also increased by 100 million in this period. While one-fourth of all school aged children in the developing countries are not in school, about 40% of primary age girls and almost 60% of girls 15 to 19 are out of school (Sivard, 1985, p.18). A report prepared for the midpoint conference of the U.N. Decade for Women, in 1980, found that in Afghanistan, Bhutan, and Nepal, fewer than 20% of their girls were enrolled in primary school (Adams, Nov. 1980, p.xi).

Goldstone (1986) introduces a measure of sex disparity which is measured as the gross female primary enrollment ratio in relation to the gross male primary enrollment ratio; zero indicates parity, (one minus the ratio of females to males: 1–f/m). His measure, when applied to international data indicates improvement in the disparity rate between 1960 and 1980–83. The number of countries with a sex disparity in education greater than 75 dropped from 12 to 1 and the number of countries with a sex disparity of 25 or less rose from 45 to 65. Ten countries showed consistent improvement over this period while 14 showed consistent deterioration (seven in Sub-Saharan Africa) (Goldstone, 1986, p.6).

In addition, females do not enjoy the same benefits from the schooling they attain as do males (Finn et al., 1980; Sivard, 1985). Studies show that female attendance

at school is more sensitive than that of males to the distance from schools (Kelly, 1986; Islam, 1979), the father's educational attainment, and the number of children in the household under five years of age (Cochrane and Jamison, 1981). In Egypt, though the majority of families send all their children to school, the discrimination that continues to exist is against female education. Of urban families, 16% send only boys to school and, of rural families, 26% only educate their boys (Robinson, et al., 1986). Girls are more often malnourished than boys and, hence, suffer more in terms of poor school performance (Adams, Oct. 1980, p. 12). There is evidence that both fathers and mothers prefer education for their sons over their daughters (Lewis, 1979).

In Botswana, though girls attend primary school at rates higher than boys, by secondary school they are overtaken by boys and by university level males outnumber females 2 to 1 (Brown, n.d.). The increasing underrepresentation of girls at successively higher levels of education is found in many countries. Data from the Philippines and Chile, however, go against the general trend, showing that, in these two countries, there is a higher ratio of girls completing four years of college than of boys (King, 1981; Schiefelbein and Farrell, 1980). However, another study in the Philippines shows that this is a class differentiated phenomenon. Birthplace (urban/rural), educational attainment of fathers, and poverty all contribute to fewer girls receiving education than boys (Smith and Cheung, 1981). Another study of adolescent girls in developing countries (Safilios-Rothschild, 1982), finds that urban girls in a number of Latin American countries have higher literacy rates than boys overall; but the importance of this finding is in the fact that urban girls have much better chances for education than do rural girls. Thus, the determinant of gender is compounded by the determinants of remoteness and poverty discussed above.

The research literature on women in developing countries has increased dramatically since the 1974 Percy Amendment to the Foreign Assistance Act that required that all U.S. AID projects assess their impact on and inclusion of women, and since the U.N. declared 1975-1985 the Decade for Women. Finn (1978) and Ram (1979) both cite bibliographies of over 200 items each that deal with female education. A number of other shorter bibliographies exist, as for example in Kelly and Lulat (1980), Bowman and Anderson (1980), and Kelly (1986). Here we shall simply summarize from some of this literature the ways in which gender has been found to affect access to and retention in schooling around the world.

Obstacles to female education arise both from outside and from within the education system, and include cultural attitudes and expectations (sometimes religiously based), the perceived irrelevance of female education to economic activity, and educational methods utilized within the schools (Tinker and Bramsen, 1975). The disadvantage of girls in education is mediated through gender-based divisions of labor and social roles.

- **Cultural Attitudes and Social Roles:** Cultural tradition about the social roles of females often affects girls' access to education and their ability to continue to higher levels (White and Hastuti, 1980, for example). In countries where the restrictions of purdah are practiced, girls have low mobility and/or opportunity to attend public events, including school (Islam, 1979), though in some places these limitations are beginning to change (Youssef, 1976). Girls often experience restrictions on their mobility for reasons less explicit than purdah. Such limitations affect access to schooling in very much the same way as remoteness.

Mobility restrictions in many societies arise when girls reach puberty (Robinson, et al., 1986). Therefore, the effect is on girls' retention in school more than on entry. When their daughters reach puberty, parents worry about "protecting" them sexually. In fact, evidence from Botswana, Ghana, and Liberia shows that high drop out rates among high school girls are often the result of pregnancy (Brenner, 1982; Brown, n.d.; Adams, July 1980). In Ghana, 37.8% of the girls who left school cited pregnancy as the reason (Adams, July 1980, p.8); in Liberia 65% of female high school dropouts left because of pregnancy (Brenner, p.5, 1982).

Early marriage more often interrupts schooling of girls than of boys (Bowman and Anderson, 1980, p.19; Safilios-Rothschild, 1979), but studies show that there are probably common causes for early marriage and low school attendance rather than the former being the cause of the latter. In some cases, a fear of "moral corruption" more than of sexual danger underlies parental decisions to withdraw older girls from school (Yates, quoted in Bowman and Anderson, 1980 p. 19; also Beautheac, 1971). That is, parents fear that their daughters will become "modern," and will not obey them or their husbands if they get too much education.

- **Education for Females and Their Economic Roles:** In all societies, there is a gender-based division of labor in both the production of goods and services and in household-based production (Overholt, et al., 1985). This division of labor affects access to schooling in two ways. First, jobs assigned to girls or boys may directly conflict with school attendance. The literature provides numerous examples of limitations imposed on both girls and boys because of other work (McSweeney and Freedman, 1980; Chaimie, 1983; Lockheed and Jamison,

Girls are more often malnourished than boys, and hence, suffer more in terms of poor school performance.

1979; Safilios-Rothschild, 1979; Kelly, 1986; The Foundation for Research on Educational Planning and Development, 1983; Robinson, et al., 1986, etc.). For example, girls often are required at home to care for other children or a great part of their day is consumed in fetching water and firewood (Safilios-Rothschild, 1979; Chaimie, 1983; Lockheed and Jamison, 1979; and many others). In other cases, boys' tasks limit their school attendance; for instance, when they enter the labor market to earn family income (as in rural Philippines, King, 1981), or when they have the job of herding family animals and are, thus, living a nomadic existence much of the school year (as in Botswana, Brown, n.d.).

Job conflicts with schooling more often prohibit girls' attendance in school than boys' because female tasks, located in the household, occur daily (water and fuelwood collection, child care, for example). Boys' jobs are more often seasonal, associated with agricultural production (as, for example, scaring birds and monkeys from ripening crops in Uganda, Anderson, PACT 1986). There are, of course, seasons of high labor requirement in rural areas, such as planting and harvesting, that require the labor of both boys and girls so that neither can attend school.

While parents may be willing to send small girls to school for a while, economic necessity affects girls' retention rates. In Egypt, the major reason given for boys dropping out of school, across all economic levels, is failed examinations, but the major reason for girls in all but the most affluent homes is the cost of education and/or the need for their labor at home. For girls of affluent homes, reasons for dropping out include custom, the chance to marry, and distance to school (Robinson, et al., 1986, p.A-84).

Second, the prospects for lifelong economic activity affect girls' and boys' schooling differently. Since education is often thought to be most useful in the formal economic sector, and because girls/women often have less access to this sector than boys/men, parents decide that schooling is not relevant for the economic roles of their female children (Chamie, 1983). Ram shows that occupational segregation by gender greatly affects education decisions for males and females as they train for the jobs they expect they will be allowed to fill (1979, p.48).

When parents do not believe that the education of their daughters will result in economic returns, they do not invest in educating their daughters. In addition to low expectations about future employment, parents decide that education is "not worth it" for daughters who, when they marry, will move into their husband's family. They know that any gains in productivity or income due to education will accrue to the family of marriage rather than to them (Lockheed and Jamison, 1979). In some instances, however, a girl's chances of marriage are improved, or her bride price increased, if she is educated, so that female education can result in sufficient returns to justify the investment (Ram, 1979).

- **Within School Effects on Female Education:** What goes on within schools also affects female access. Teaching methods, staffing, curriculum content, classroom and other facilities are all found to affect female entry and retention in schooling. A number of studies find a positive correlation between the presence of female teachers in schools and the attendance of girls (Safilios-Rothschild, 1979; CERID, 1984; Adams, July 1980). Safilios-Rothschild cautions, however, against assuming that such correlation reflects a causal relationship. She suggests that both the increase in female teachers and the increase in female enrollments may be the result of some other factor. Some studies have shown that the effect of the teacher's gender is even more important in female retention in school through two other mediating influences. First, role-modeling seems in some cases to have an effect on girl students in that, if they perceive that their female teacher has a good life and good options, they are encouraged to pursue higher levels of education. Second, there are studies that show that teacher-student interactions differ by student sex (Finn et. al., 1980), and some show that female teachers provide more encouragement to girl students than male teachers do, by giving them more classroom attention, believing them to be capable, etc. These differences in treatment by teachers are translated into differences in educational achievement (Crandon, 1984).

Other in-school effects on female access include tracking by sex into certain courses. While it is not uncommon for schools to provide some mechanical or shop courses only to males and home economics only to females, there are other courses, such as math and science, that are socially difficult for girls to enter. Further, even when course content appears the same for both boys and girls, a number of studies (quoted in Finn, et al., 1980) shows that there are subtle and important differences in curricular exposure by gender, with girls actually being taught to prepare themselves for marriage and motherhood. These subtle instructional emphases seem, according to these sources, to be correlated to gender differences in educational attainment.

- **Gender and Family Wealth:** One interesting and important relationship between gender and wealth has shown up in several studies and deserves further examination. Parents apparently have greater elasticity of educational demand for education for their girls than

for their boys. This means that any drop in the costs of schooling will have a greater impact on girls' access than on boys'. Nkinyangi's (1982) study of the impact of the abolition of school fees on different groups in Kenya shows this effect. Another study of the scheduled castes in India (reported by Safilios-Rothschild, 1979) indicates that increases in the size of parental land holdings have twice the impact on girls' educational access as on boys'. Conversely, Islam (1979) finds that one bad harvest for poor families in Bangladesh has a greater percentage impact on the drop in girls' attendance than on boys'.

Intra-Family Composition/Birth Order

The fourth factor determining access to education is family composition combined with birth order and gender. There is evidence from several countries (Nepal, Lockheed and Jamison, 1979 and Ashby, 1985; the Philippines, Smith and Cheung, 1981 and King, 1981; Bangladesh, Islam, 1979) that which child(ren) a family decides to send to school is affected by a number of cultural and intra-family factors. These findings challenge earlier analyses that assumed that family resource allocations would benefit all family members as participants in the production unit. It now appears that there is discrimination and inequality among family members in terms of their access to education.

Ashby (1985) finds that the presence of (and birth order of) other siblings influences who is and is not sent to school and, for girls, it is particularly important whether or not they have brothers. Smith and Cheung (1981) found in the Philippines that poor families with less educated fathers allocated resources for education between sons and daughters less equitably than did better off families. King's findings in the Philippines (1981) show that first-born children are not favored educationally and she cites another study by Birdsall (1980) in Colombia that found that middle children of non-working mothers have less access to schooling than their siblings. Lockheed and Jamison's sample in the Terai Region of Nepal (1979) showed that the more daughters a father had, the more schooling he desired for his sons.

The intra-household factors that have differential effects on the access to schooling of different children in the household are complex and intertwined. Though the evidence from the literature raises intra-family issues as important, it seems unlikely that any single policy can be devised to address the variations among cultures and families. Nonetheless, in any given context, it may be possible for policy makers to identify common patterns among households that would be important in efforts to improve access to education.

Race and Ethnicity

The fifth factor found across societies that affects access to education is race and ethnicity. Groups that, in general, are disadvantaged or disenfranchised because of prejudice also suffer unequal access to education (Wang, 1983; Gunawardena, 1979; Bullivant, 1983). Discrimination is sometimes explicit as when schools are designated by race, ethnicity, or language (when language differs along ethnic group lines). In Nepal, the coincidence of language spoken at home and used in school was found to be a high predictor of school participation. Also, while the ethnicity of the teacher was only the 12th ranked determinant of primary school participation, it was second only to gender in determining secondary school participation (CERID, 1984).

Sometimes the limitation of access to education because of race or ethnicity is more "invisible," embedded in histories of prejudice and discrimination. Examination biases, "mother- tongue" instruction, discrimination in housing and mobility – all can serve to reinforce educational inequalities when the stated educational policy is equality of access.

One interesting study of educational attainment and occupational expectations, done in Malaysia (Wang, 1980), shows that it was the students' awareness that their chances for advanced education and for certain kinds of employment were limited, that affected the decisions of Chinese students not to continue to the sixth form. This resulted in students failing to achieve in school, that is, appearing unable to qualify for higher education, even though all other factors would have predicted that they could have competed ably with their Malay cohorts.

Religion

A sixth determining factor of educational access is, in some societies, religion. Ursula King (1987) traces a relationship between the patterns by which access to holy writings is determined and patterns of access to education in general, particularly focusing on female access, in Hinduism, Buddhism, Judaism, Islam, and Christianity. She notes that the privilege of religious access has often been restricted to certain classes and to males, and she suggests that the patterns set up for the transmission and gaining of religious knowledge (and power) have been influential in setting patterns for access and exclusion to formal, public education. Obiakor (1983) found that the traditional religious leaders in northern Nigeria opposed the universal primary education policies of the government and, through their opposition, were able to undermine the implementation of these policies. King (1987) makes the point, however,

Schooling succeeded...when teachers were recruited from among the same nomadic tribal/ethnic group...

that in many countries and many religious traditions, reformist movements of the nineteenth and twentieth centuries have challenged the religious basis for educational access and exclusion.

The relation among religion, gender, and lack of access in Moslem countries practicing strict purdah is noted by several writers (Islam, 1979; Yousef, 1976; Jones, 1980). The problem for girls' access results more from the need to supply sex-segregated schooling and female teachers than from a devaluation of female education per se. Al-Hariri (1987), however, points out that purdah is not the result of strict religious interpretation, but rather of cultural and traditional norms. She claims that even where purdah is practiced, female disadvantage in education need not occur if the society can afford to provide equal and adequate schools, teachers, texts, transport, etc., as is the case in Saudi Arabia.

Religion, along with gender, social class, and regional location was found, by Yadav (1980), to be an important determinant of access to schooling in India. And Bray (1985) included religion among the factors affecting admission to secondary schools in Papua New Guinea, China, and Tanzania.

Handicaps and Needs for Special Education

Malakpa (1986) finds that even countries that have explicitly stated policies of universal education, "excuse" handicapped students from school attendance where such attendance is "impracticable." Sometimes exclusion of handicapped students from school reflects prejudice against people who are different. Sometimes, the exclusion arises from limited resources where an educational system places priority on improving access for the majority of children before providing special facilities, or teachers, for dealing with special needs.

Malakpa discusses the interaction between poverty, remoteness and handicapped exclusions from schooling. Poorer families are less apt to receive medical services that could prevent or treat certain handicaps. Distance from school may exacerbate difficulties for certain handicapped persons whose mobility is limited. In poor countries, the problem of exclusion from schooling for handicapped children is significant. Without education, the probability that these children can become economically productive is low, but per capita costs of providing education to children with certain handicaps is high for countries in which the educational resources are already insufficient.

Children in Motion

While the literature does not categorize a disadvantaged group as "children in motion," the classification arises from a review of the (scant) literature on nomad education and the (less scant) literature on refugee education. Nkinyangi (1982) notes that Kenya attempted to overcome its failure to reach the children of nomads by settling them in boarding schools. The government of Kenya built hostels at schools specified for nomads to encourage these children to attend school. (The policy did not succeed as will be discussed in a later section.)

In Mali, Woodrow (1987) reports that when nomads, whose livelihood was threatened by drought, were settled in a village, they began, very soon, to request schooling for their children. When the drought eased, the settlement remained fairly stable, largely because of the value placed by residents on this schooling. Schooling succeeded in this case because teachers were recruited from among the same nomadic tribal/ethnic group so parents were not afraid that the education would alienate their children from their cultural heritage.

Most of the education provided to refugee children is provided under the auspices of the United Nations High Commissioner for Refugees (UNHCR, 1986; Kalmthout, 1986). The children of refugees are in motion in the sense of being dislocated from their home society and environment. Also, they are often in this situation for several years or, even in some cases, over many generations. Still, because of their particular status, and because both refugees themselves and the host countries where they are encamped hope that they will soon be repatriated, local formal educational systems usually do not serve them. Thus, special programs must be set up to educate children in refugee camps. Ironically, these programs are sometimes superior to the education received in the same area by the local children through their national educational system.

Concluding Comments

The literature dealing with the factors influencing access to education is extensive and, for the most part, conclusive. These eight determining factors of differential access to, and retention in, schools are found in enough countries to be of interest to educational policy makers. Remoteness, poverty, and gender seem always to affect access although in some countries, such as Chile, the Philippines, and Botswana, to be female is sometimes an advantage rather than a disadvantage. Intra-family priority setting is difficult to generalize about, although there is evidence that this does have a differential impact on access in many countries. Ethnic, racial, and religious groups suffer disadvantages in educational access when there is prejudice against them. Countries vary widely in their provisions for including handicapped students and usually such students suffer severe educational disadvantage. Finally, it is difficult for educational systems to reach children who move about, so nomads, immigrants, and refugees are educationally disadvantaged unless they settle for a period of time.

Section IV: Policies to Improve Access

The literature on policies and programs to improve educational access is of limited scope and many studies are not immediately generalizable to other contexts. There are many reports and evaluations of specific project efforts to expand and equalize schooling for children, primarily available from the records of bilateral donors who have provided financial support to education development efforts. Also a number of the articles that deal with the problems of access include recommendations for policies and/or programs to improve it. Finally, there are a few articles that describe and analyze policies to improve access that have been tried in specific contexts. Missing in the literature are comprehensive, systematic, and comparative reviews of the effectiveness of different policies, programs, and projects in the different contexts in Africa, Asia, and Latin America.

From the literature that does exist, several common perspectives emerge. First is the recognition and repeated demonstration that policies intended to increase the overall supply of educational opportunities have increased access to education. However, while the numbers of children in school have increased, these policies have not been equally successful for all groups of children (Malakpa, 1986; Kelly, 1986; Lynch, 1982). Second, educational systems reflect and reinforce the larger socio-economic political context and, as such, cannot alone overcome discrimination and disadvantage directed at certain groups within the society. In fact, whatever disadvantage exists in other spheres of society shows up as a factor influencing participation and retention in schools (Court, 1975; Heneveld, n.d.; Wang, 1983; Islam, 1979). Third, because of these existing patterns of influence on participation, every policy either reinforces existing patterns of access and exclusion in schooling or challenges them. Finally, any attempt to overcome these society-based historical barriers to participation, through treating all children equally, will fail. Treating unequals as if they are equal is to perpetuate the inequality (Sherman, 1980; Wang, 1983) or to worsen it (Lynch, 1982).

These are obvious points. However, failure to make them explicit and to deal with them in terms of tailoring policies to specific problems results in the continuation of patterns of access to and exclusion from schooling. Thus, much of the literature on policy solutions to access problems in education focuses on understanding the causes of these problems and addressing them specifically and directly (Kelly, 1986; Robinson, et al., 1986; Wang, 1983; Adams, July 1980).

Most countries would acknowledge that they face a real policy dilemma between pursuing education as a means to growth ...and providing education to all as an equal right.

What are the policy options that educators have by which to overcome past exclusions from schooling and to improve access and retention in school? We have noted that the policies educational decision makers use may be classified according to their effect on the supply of schooling and their effect on the demand for schooling. Court (1975) points out that, while most of the literature looks at disparities in the supply of education as these give some groups advantage over others, there is an equally important disparity among groups in their demand for education. Often left over from colonial times, these patterns of expectations regarding the usefulness of education are so embedded in peoples' attitudes that they are even more difficult to overcome through educational policy than the resource constraints that limit educational supply (Court, 1975, p.19). The supply/effective demand dimensions of access provide a framework to examine the policy options for addressing the causes of unequal access to education.

Policies to Affect the Supply of Education

Where the demand for education is fixed, educational policy makers may affect access to and retention in school through manipulation of educational supply variables such as the provision, location, and equipping of schools; staff recruitment, training, and placement; curriculum design and materials; etc. Until all children in

a society are fully served, any improvement in the supply of schooling will result in an improvement in access for somebody in that society. Since no society has sufficient resources to meet all educational needs, real policy decisions and options arise in setting priorities among alternative uses of educational resources.

In the introduction to this review, we noted that educational policy makers may provide education either as a good, in and of itself, to which all children are entitled, or as a means to achieving another goal, usually economic development and national unity. In either case, educational policy makers have to set explicit priorities that reflect their goals.

Economic Growth

If the goal is economic growth and development, the policy question is how to focus educational resources to achieve economic growth and development most effectively. Overall, it is clear that significant expansion of education during the 1950's and '60's in the countries of Africa, Asia, and Latin America was not a predictor of economic growth in the 1960's and '70's in those countries (Lockheed, Jamison and Lau, 1980). However, the World Bank (*Strategies,* 1985) argues that research evidence justifies the adoption of policies that explicitly target certain populations for education if economic returns from educational investments are to be maximized. Lockheed, Jamison and Lau (1980) find that the productivity returns to educational attainment among farmers are significant. Kelly (1986) and others argue that findings that correlate female education with decreases in fertility rates justify a focused investment on education for females for overall gains in economic growth.

To justify targeting educational resources on farmers and females is to use the arguments of economic growth to refocus educational priorities away from those groups that have typically been advantaged, by showing that greater returns may be had by shifting educational investments to previously disadvantaged groups. However, other literature shows that the greatest economic returns to education may be realized by focusing on educating those who already have achieved fairly high access to education rather than trying to provide education to new, unreached groups (World Bank, *Research Brief,* 1985).

Behrman and Birdsall (1983) note that attempts to correlate schooling with productivity or economic returns are misleading insofar as they only relate the quantity of education, and not the quality, to outcomes. Arguing with the literature that claims the highest returns are found by investing in better off communities, they find that when they introduce a quality factor in the study of educating males in Brazil, the claim is not justified. They state that returns from educational investments are not measurable simply in terms of changes in the quantity of education supplied to particular populations. And they suggest that if policy makers wish to target their educational investments to realize the greatest economic returns, they must take the quality of education into account as much as the quantity in order to determine where they will get their best returns.

Economic Growth and Equity

Most countries would acknowledge that they face a real policy dilemma between pursuing education as a means to growth (and, thus, targeting education in the most efficient way to achieve this growth) and providing education to all as an equal right. They need to be fair in providing equal access to social services while they are under pressure to ensure rapid economic growth, which will be, in the long run, for the benefit of all. However, even when equity is the goal of education, policy makers must set priorities among the populations to whom they will supply education because of limited resources. Whether the goal is education for growth or for equity, central ministries and policy makers still set priorities and target specific groups for educational inputs.

Equity

When the goal is equity, the policy choices for targeting are usually justified on the basis that they are designed to overcome past inequities. Governments undertake "positive discrimination" (Wang, 1983) to bring new groups into education who have previously been excluded. Some of the most helpful literature in this area of the policy reviews helps governments "sort out" their priorities by providing evidence about who, in any given context, should be the target of efforts to overcome past exclusions.

For example, Robinson, et al. (1986) note that studies of past exclusions can provide a precise predictor of who will and who will not be enrolled in schools in the next period. That is, patterns of enrollment and non-participation are replicated from generation to generation and government policy may be targeted to break these cycles. Policy makers need not be overwhelmed by vast needs (according to Robinson) but can focus on the limited percentage of the population whose patterns they seek to change. In the Egypt study, 28% of the families in the region were found to "need to be convinced" to send their children to school (p.A-99). Since the reasons these families did not send their children to school could be specifically described, policy makers had a specific programmatic focus. Other researchers agree that in many countries a clarification of the reasons for non-enrollment of particular groups can provide policy makers with specific program and policy options to change access patterns (Kelly, 1986; Adams, July 1980).

...a clarification of the reasons for non-enrollment of particular groups can ...change access patterns.

Unintended Consequences of Policies

The literature also presents cases where policies intended to overcome some existing disparity in educational access through the provision of new educational inputs had consequences that were unexpected and, all too often, reinforced past patterns of advantage and disadvantage. These cases caution against overconfidence in predicting policy outcomes on the basis of limited analysis. Several case histories illustrate this well.

Nkinyangi (1982) examines two policies implemented by the government of Kenya to increase access for poor and remote students. One was the abolition of school fees and the other was the provision of boarding schools in grazing land areas for the children of nomads, who would not otherwise be reached by day schools. He found that both policies had unexpected results and that neither succeeded in reaching the intended children to the extent desired or planned. This was because, in both cases, the policy dealt with only one aspect of the causes of non-participation and ignored others, thus creating new problems for access in the system.

Initially, by abolishing school fees, the government of Kenya substantially increased enrollments in schools in poor/rural areas. Interestingly, the percentage increase in female enrollments was higher than that for males, indicating that parents had valued education less for girls than for boys. Only with lower direct costs, in this case none, were they willing to send their girls to school. Access for children whose parents could not afford the fees initially improved across the board. However, over the longer run, because the educational planners had not dealt with how the revenues lost from fees would be made up, local school systems began to levy other types of fees to cover costs.

Communities (and families) with greater economic resources were therefore able to continue to provide schooling of a similar quality as before the abolition of fees. Poorer communities experienced a real deterioration in the quality of their schooling. The net result was that while more students were actually in school, the educational differential between poor and rich students in terms of quality (on a community by community basis) was not overcome and, in fact, may have worsened. Court's (1975) research agrees with Nkinyangi's, finding that the emphasis on self-help that accompanied the abolition of fees meant that richer communities were able to sustain and improve their educational systems while poorer communities fell farther and farther behind.

Nkinyangi (1982) also found that when boarding schools were built to provide living accommodations for children of nomads so that they could attend school, planners failed to consider the effects of poverty on the families' abilities to utilize these new schools. The newly built schools had unfurnished rooms for the boarders; the students were to bring their own beds, blankets, pots, etc. The extra costs of these household essentials were prohibitive precisely for the populations for whom the new schools were intended. As a result, nomadic children did not take advantage of these new places. Children from wealthier families in other districts, who had been refused entry to limited school places in their districts, were able to gain entry into these schools by giving false addresses and taking advantage of the boarding facilities.

Similarly, Court (1975) found that when Tanzania adopted policies favoring the provision of primary schooling to all children before providing higher education to certain groups, there were unexpected results. Tanzania decided to postpone the building of secondary schools almost entirely, providing only a few in districts that had been completely left out. In a few years, however, private, fees-paying schools sprang up in those communities in which the government was not building secondary schools. These communities had experience with secondary schooling (they had had these schools for some years), and they were economically somewhat better off than those where no schools existed. The private schools they built and supported turned out to be superior to government schools. Access to secondary schools increased as an indirect outcome of the policy but in a manner that continued the disparity between rich and poor.

In all of these cases access to schooling improved. New places were created and more children attended school. However, the policy intent to overcome past barriers to participation and educational disparities (between rich and poor, between settled and nomadic), was not realized.

Quota systems designed to provide spaces in schools for previously excluded groups have been more effective in encouraging participation among targeted groups (Wang, 1983). In Bangladesh, 50% of the primary scholarships given at the end of class V are reserved for girls, thus addressing the tendency of girls to drop out of school at this level (The Foundation for Research on Educational Planning and Development, 1983). However, in other cases, the attempt to use quotas has had a "backlash" effect, causing other forms of discrimination that exclude the groups that the policies intended to help (Wang, 1983).

Policies to Affect the Effective Demand for Education

Court's (1975) insight that the "disparity in demand for education" is as serious an impediment to school participation as disparities in the supply of education is an extremely important one for policy makers. Much of

...when groups perceive schooling as irrelevant, they will not enroll their children.

the research cited above demonstrates these variations in demand among groups and within families. As we have seen, when groups perceive schooling as irrelevant, they will not enroll their children. Costs, both direct and indirect, affect the demand for schooling. Parents claim that ethnicity and gender of teachers affect their decisions about sending their children to school. The school schedule, when it conflicts with tasks that the family considers essential, affects parents' willingness to enroll their children in school.

What policy options do educational policy makers have for affecting these determinants of the demand for schooling? Ministries of education can manipulate the demand for education primarily through the same variables that affect supply. That is, when families perceive education as irrelevant, policy makers can alter the curriculum (an aspect of educational supply) to make it more relevant (Wang, 1980). When ethnicity and/or gender of teachers matters, ministries can alter their staff recruitment and placement policies (Clark, 1981; CERID, 1983; Islam, 1979). When costs of schooling limit enrollments for specific groups such as the poor, rural, and females, ministries can enact policies providing free education and/or subsidies for specific groups (Noor, 1981; Singh, n.d.; Kelly, 1986; Tilak and Varghesa, 1985). The literature clearly gives these policy leads.

However, to define costs of schooling, the gender or ethnicity of the teacher, or the irrelevance of the curriculum as determinants of the failure to participate in school is not the same thing as to prove that decreasing costs, recruiting female teachers from specific ethnic groups, or teaching farming methods in school will bring those students into school. In fact, the research shows that some efforts to increase educational relevance, for example, have resulted instead in dual tracking in the educational system with the result that those for whom the education was intended as relevant, view it as inferior. The consequence is that their demand for education remains low (Barber, 1981; Winter, 1984; Evans, 1981). While research shows a correlation between the presence of female teachers and the participation of female students in schools, there is doubt about the causation (Safilios-Rothschild, 1979), and research is not adequate to indicate that the recruitment and placement of female teachers will *ipso facto* result in improved access to schooling for girls. Further, the example from Nkinyangi (1982) demonstrated that the provision of boarding facilities was not enough to bring nomadic children into school even though location, timing, and costs of schooling had been important constraints on their participation.

Demand for education arises from multiple motivations and can be affected by many factors as we have seen. The cases cited here would indicate that it is rare, indeed, for a single factor to determine demand. Far more often, overlapping factors influence parents in their decisions about whether or not to enroll their children in school. Some of these factors are more, and some less, responsive to ministry of education policy initiatives. Ministries of education can alter supply variables to provide education for children and to attract those who have not previously come to school. Some of these alterations can affect parental demand for education for their children. Knowledge of the factors that determine the demand for education would, from the literature, appear to be a necessary, but not sufficient, condition for devising policies to improve access to schooling.

Section V: Conclusion

The literature on access to and retention in education is extensive. It provides strong description and analysis of the factors that determine differential access among groups. From the clarity of the research on these determinants, some writers have concluded that policy makers are well armed to devise policies that will be effective in improving access for everyone, including those groups who have previously been excluded.

However, where case studies exist of implemented policies, findings reflect varying levels of success relative to unintended consequences. Even where the determinants of exclusion from schooling are well understood—as in the case of poverty, for example—policies designed to reduce the costs of education have, even as they brought poor children into school, also increased the disparities between schooling for the poor and the rich.

Research to date provides strong lessons for policy makers who are concerned with access. In some cases, the lessons are as much about what does not work as about what does work. The literature suggests useful ways to sort among policy alternatives and to improve understanding of likely outcomes of policy options.

The realities of the context of policy making that must be acknowledged if policies are to be effective have received a great deal of research attention. Much of the literature deals with the fact that education systems fit within, reflect, and perpetuate the larger social/political/economic systems so that the policies cannot deviate very far from the norms and determinants of these larger systems (Yadav, 1980; Clark, 1981; Kelly, 1986; to name only a few who make this point). Thus, when new forms of education are supplied that are designed to improve access for a group that has been left out, those groups already advantaged by the system often co-opt the improvements.

In addition, policies can never be enacted as if they exist in a policy vacuum. The history of accumulated policies shapes the policy environment that, in turn, shapes the impact of any new policy.

Research results again and again demonstrate that the socio-economic context in which education is provided is complex and multi-layered. While we have found it useful to separate out eight factors that determine differential access to education, it is also necessary to remember that these factors can overlap and compound each other. In our discussion we often noted interrelationships; for example, that poverty goes with remoteness; that poor, rural females have less access to schooling than their urban counterparts; and that in some instances, urban girls have greater access than rural boys. The literature shows that the factors that affect access interact with each other, sometimes reinforcing a bias and sometimes counteracting it.

Ongoing efforts to engage the very groups who are excluded from schooling in policy formulation to overcome their exclusion,...would be instructive for policy makers.

How does the literature help policy makers deal with these complexities? From our review of the research to date, three guides are suggested.

First, the research of Court (1975) and others reminds us that there are patterns of demand for education among different groups that are based in historical and traditional patterns of expectations. These are identifiable and traceable and, once understood, provide the background for policy initiatives. Kelly (1987) makes this point especially clear in relation to female education where she points out that, while much location-specific research remains to be done, it is clear from existing research that female enrollments increase when: 1) schools are made available for girls; 2) these schools provide conditions that make it possible for girls to attend; and 3) the education provided is linked with work force opportunities for women.

Second, the research of Robinson, et al. (1986) in Egypt indicates that patterns of educational demand are consistent over generations so that once policy makers have identified the groups (families) in their countries

who do not send their children to school in one period, they can with some certainty predict that these same groups should be the focus of future policies to affect demand and increase access. This means that, in these specific contexts, policy makers do not have to consider all possible determinants of effective demand but can instead focus on those sets of factors that are important **among particular groups within their own context.**

Third, the research on policy initiatives that have been tried (Nkinyangi, 1982; Court, 1975; Barber, 1981; Winter, 1984) shows that even within a specific context, demand is never a reflection of a single factor. Multiple factors must be taken into account if the outcomes of any policy are to be those desired. From the cases cited in Section IV where a policy initiative did not have its intended impact, it would appear that the failure to acknowledge the overlap of multiple determinants accounts for the failure of the policy to achieve its goal. Each of the policies that failed focused only on a single factor that affects demand and did not take into account other related, compounding factors. Policy makers should note that even though one factor may appear dominant in determining any group's effective demand for education, it is almost inevitable that other factors will also be important and the **relationships** among these factors must be understood before an effective policy can be devised.

These three findings from the literature do provide guidelines for policy. They help: a) focus attention on factors that affect effective demand in context; b) remind policy makers to consider the relationships among these factors that, while not obvious, must be considered in policy making; and c) focus on the groups or families, again **in context,** that should be the priority for policy initiatives.

Guidelines for future research also emerge from this review. Given the importance of understanding the ways in which multiple factors affect access, research focused on the families and groups that are excluded is called for. Specifically, research is needed that gathers information from these people, not only on what they claim are the reasons they do not send children to school, but, more importantly, on **what would convince them to enroll their children.** Ongoing efforts to engage the very groups who are excluded from schooling in policy formulation to overcome their exclusion, and the results of these efforts, would be instructive for policy makers both in the country where such research is done and in other countries as well.

Finn (1978) also suggests that we need additional "descriptive research" done in the "natural laboratories" of educational systems that are involved in implementing trial policies to improve access. That is, even as policies are being tried, we should gather information about implementation successes and failures that would add to general knowledge and ability to address access.

Finally, systematic, comprehensive comparisons of experiences with different access policies across cultures and educational systems, and their results, would help identify which factors (and combinations of factors) are most significant, and under what circumstances, in affecting policy outcomes for improving access.

Increasing access to education, particularly for those groups of people who have been disadvantaged by past policies, remains a central focus for ministries of education around the world. Much has been learned about patterns of access and exclusion, and there is a more sophisticated understanding of the determinants of exclusion and the ways in which these reinforce or counteract each other. Additional studies of efforts to include preiously excluded children, and of the motivations and experinces of the people affected, are needed to achieve the goal of equal access to schooling – and equal quality in that schooling – for all children.

Bibliography

Adams, Frances McStay. "Early Education for Girls: A Priority for Literacy." Prepared for the Office of Women in Development, U.S. Agency for International Development. Equity Policy Center, Washington, D.C., Oct. 1980.

Adams, Frances M. "Education and Training for the World's Poorest Women and Girls." Paper prepared for the Office of Women in Development, U.S. Agency for International Development, Nov. 1980.

Adams, Frances McStay. *Summary and Highlights of Review and Evaluation of Program Achieved in the Implementation of the World Plan of Action: Education.* Copenhagen, Denmark, July 1980.

Adelman, Irma, and Cynthia Taft Morris. *Economic Growth and Social Equity in Developing Countries.* Stanford, CA: Stanford University Press, 1973.

Anderson, Mary B. "The Multi-Sectoral Rural Development Project, Busoga, Uganda: A Case Study." Prepared for PACT, New York, 1986.

Ashby, Jacqueline A. "Equity and Discrimination Among Children: Schooling Decisions in Rural Nepal." *Comparative Education Review,* Vol. 29, No. 1, Feb. 1985, pp. 68–79.

Barber, Elinor G. "General Education Versus Special Education for Rural Development." *Comparative Education Review,* Vol. 25, No. 2, pp. 216–231.

Barnes, Barbara. "Education for Socialism in Mozambique." *Comparative Education Review,* Vol. 26, No. 9, Oct. 1982, pp. 406–419.

Beautheac, Nadine. "Equality of Access of Women to Education: Nepal." UNESCO, Paris, Aug. 1971.

Behrman, Jere R., and Nancy Birdsall. "The Quality of Schooling: Quantity Alone is Misleading." *American Education Review,* Vol. 73, No. 5, Dec. 1983.

Birdsall, N. "Birth Order Effects and Time Allocation." The World Bank, June 1980.

Bowles, Samuel. "Cuban Education and the Revolutionary Ideology." *Harvard Educational Review,* Vol. 41, No. 4, Nov. 1971.

Bowman, Mary Jean, and C.A. Anderson. "The Participation of Women in Education in the Third World." *Comparative Education Review,* Vol. 24, No. 2, Part 2, June 1980.

Bray, Mark. "High School Selection in Less Developed Countries and the Quest for Equity: Conflicting Objectives and Opposing Pressures." *Comparative Education Review,* Vol. 29, No. 2, 1985, pp. 216–231.

Bray, T.M., and G.R. Cooper. "Education and Nation Building in Nigeria since the Civil War." *Comparative Education Review,* Vol. 15, No. 1, March 1970, pp. 33–41.

Brenner, Mary E. "Student Attitudes and School Attendance in Liberia." Paper presented at the American Anthropology Association Meeting, Washington D.C., Dec. 3–7, 1982.

Brown, Barbara. "Girls' Achievement in School in Botswana." *Botswana Notes and Records,* Vol. 12, No. 1, no date.

Bullivant, Brian M. "Cultural Reproduction in Fiji: Who Controls Knowledge/Power?" *Comparative Education Review,* Vol. 27, No. 2, June 1983, pp. 227–245.

CERID, Research Centre for Educational Innovation and Development. "Primary Education in Nepal: Papers Towards Universalization." Tribhuvan University, Lizimpat, Kathmandu, 1983.

CERID/WEI, Research Centre for Educational Innovation and Development. *Determinants of Educational Participation in Rural Nepal.* Kathmandu: Tribhuvan University Press, 1984.

Chamie, Mary. "National, Institutional and Household Factors Affecting Young Girls' School Attendance in Developing Countries." International Center for Research on Women and USAID, Washington, D.C., Nov. 1983.

Clark, Carol A.M. "Children's Economic Activities and Primary School Attendance in Rural Guatemala." Santa Monica, CA: The Rand Paper Series, The Rand Corporation, April 1981.

Cochrane, Susan H., and Dean T. Jamison. "The Determinants and Consequences of Educational Achievement in the Rural Chiang Mai Valley." Population and Human Resources Division, Discussion Paper, No. 81–61, The World Bank, Washington, D.C., Dec. 1981.

Court, David. "Education as Social Control: The Response to Inequality in Kenya and Tanzania." Discussion Paper No. 217, Institute for Development Studies, University of Nairobi, Nairobi, June 1975.

Crandon, Dr. Libbett with Bonnie Shepard. *Women, Enterprise and Development.* The Pathfinder Fund's Women in Development: Projects, Evaluation and Documentation Program. Chestnut Hill, MA, Dec. 1984.

Csapo, Marg. "Religious, Social and Economic Factors Hindering the Education of Girls in Northern Nigeria." *Comparative Education*, Vol. 17, No. 3, 1981, pp. 311–319.

Dixon, Ruth B. "Women's Rights and Fertility." Reports on Population/Family Planning, No. 17, The Population Council, New York, Jan. 1975.

Evans, David R. "The Educational Policy Dilemma for Rural Areas." *Comparative Education Review*, Vol. 25, No. 2. June 1981, pp. 232–243.

Finn, Jeremy D. "Sex Differences in Educational Attainment." Paper prepared for Ford Foundation. Unpublished. State University of New York at Buffalo, Dec. 11, 1978.

Finn, Jeremy D., Janet Reis, and Loretta Dulberg, "Sex Differences in Educational Attainment: The Process." *Comparative Education Review*, Vol. 24, No. 2, Part 2, June 1980.

The Foundation for Research on Educational Planning and Development. "Assessment of Female Education in Bangladesh: Part I: Summary of the Major Findings and Recommendations." Dhaka University, March 1983.

Ginsburg, Mark B., and Beatriz Arias-Godinez. "Nonformal Education and Social Reproduction/Transformation: Educational Radio in Mexico." *Comparative Education Review*, Vol. 28, No. 1, Feb. 1984, pp. 116–127.

Goldstone, Leo. "Sex Disparity in Primary Education." International Institute for Educational Planning, UNESCO, Paris, 1986.

Gunawardena, Chandra. "Ethnic Representation, Regional Imbalance and University Admissions in Sri Lanka." *Comparative Education Review*, Vol. 15, No. 3, Oct. 1979.

Heneveld, Ward. "The Distribution of Resources for Educational Expansion in East Java." Ministry of Education and Culture, Jakarta, n.d.

Heyneman, Stephen P. "Education During a Period of Austerity: Uganda, 1971–1981." *Comparative Education Review*, Vol. 27, No. 3, Feb. 1983, pp. 403–413.

Hirsch, Fred. *Social Limits to Growth.* Cambridge: Harvard University Press, 1978.

ICED (International Council for Educational Development). "Building New Educational Strategies to Serve Rural Children and Youth." Draft of a Second Report to UNICEF, 1974.

Islam, Mahmuda. "Female Primary Education in Bangladesh." Women for Women Research and Study Group, Dacca, 1979.

Jamison, Dean T. "Child Malnutrition and School Retardation in China." Population and Human Resources Division, Discussion Paper No. 81-27, World Bank, Washington, D.C., Sept. 1981.

Jones, Marie Thourson. "Education of Girls in Tunisia: Policy Implications of the Drive for Universal Enrollment." *Comparative Education Review*, Vol. 24, No. 2, June, 1980, pp. 106–123.

Kalmthout, Ellen van. "UNHCR's Assistance Programme for Primary Education," UNHCR, unpublished document, Geneva, 1986.

Kelly, Gail P. "Setting State Policy on Women's Education in the Third World: Perspectives from Comparative Research." Paper prepared for Nordic Symposium for Educational Research in Developing Countries, Jyvaskila, Finland, Sept. 1986. Also in: *Comparative Education*, Vol. 23, No. 1, 1987.

Kelly, Gail P., and Younus Lulat. "Women and Schooling in the Third World: A Bibliography." *Comparative Education Review*, Vol. 24, No. 2, June 1980, pp. 224–263.

King, Elizabeth M. "Child Schooling and Time Allocation in Philippine Rural Households." Paper presented at the Population Association of America meetings, Washington, D.C., March 26–28, 1981.

King, Elizabeth M., and Lee A. Lillard. "Determinants of School Attainment and Enrollment Rates in the Philippines." Santa Monica, CA: Rand Corporation, 1983.

King, Ursula. "World Religions, Women and Education," *Comparative Education*, Vol. 23, No. 1, 1987.

Lewis, Gwendolyn L. "Aspirations for Daughters' Schooling in Turkey: Comparisons between Mothers and Fathers and Contrasts with Sons." Unpublished manuscript, Department of Sociology, University of Pittsburgh, July 1979.

LeVine, Robert A. "Influence of Women's Schooling on Material Behavior in the Third World." *Comparative Education Review*, Vol. 24, No. 1, Part 2, June 1980.

Lockheed, Marlaine E., and Dean T. Jamison. "Some Determinants of School Participation in the Terai Region of Nepal." World Bank, Washington, D.C., Sept. 1979.

Lockheed, Marlaine E., Dean T. Jamison, and Lawrence J. Lau. "Farmer Education and Farm Efficiency: A Survey." *Economic Development and Cultural Change*, Vol. 29, No. 1, Oct. 1980, pp. 37–76.

Loehr, William, and John P. Powelson. *The Economics of Development and Distribution*. New York: Harcourt Brace Jovanovich, Inc., 1981.

Lynch, Barbara D. "Vincos Experiment: A Study of the Impacts of the Cornell–Peru Project in a Highland Community." U.S. Agency for International Development, Bureau for Latin America and the Caribbean, April 1982.

Lynch, Patrick D. "From Quantity to Quality—The Decline of Access to Schooling in the Developing Countries in the 1980's." Paper presented at the American Educational Research Association, San Francisco, April 20, 1986.

Malakpa, Sakui. "The Influence of Laws and Regulations on Access to Education in Developing Countries." BRIDGES Project, Harvard University, 1986.

McSweeney, Brenda G., and Marion Freedman. "Lack of Time as an Obstacle to Women's Education: The Case of Upper Volta." *Comparative Education Review*, Vol. 24, No. 2, Part 2, June 1980.

Monchar, Philip Harris. "Regional Educational Inequality and Political Instability." *Comparative Education Review*, Vol. 25, No. 1, Feb. 1981, pp. 1–12.

Moock, Peter, and Joanne Leslie. "Childhood Malnutrition and Schooling in the Terai Region of Nepal." World Bank Discussion Paper, Washington, D.C., Dec. 1985.

Niles, F. Sushila. "Social Class and Academic Achievement: A Third World Reinterpretation." *Comparative Education Review*, Vol. 25, No. 3, October 1981, pp. 419–430.

Nkinyangi, John A. "Access to Primary Education in Kenya: The Contradictions of Public Policy." *Comparative Education Review*, Vol. 26, No. 2, June 1982.

Noor, Abdun. "Steps Toward Implementing a Policy for Universalizing Basic Education." Education and Basic Human Needs, Working Paper No. 450, World Bank, Washington, D.C., April 1981.

Obiakor, Festus E. "The Universal Primary Education Program in Nigeria: Revisited." Unpublished paper, 1983.

Overholt, Catherine, Mary B. Anderson, Kathleen Cloud, and James E. Austin. *Gender Roles in Development Projects: A Case Book*. West Hartford, CT: Kumarian Press, 1985.

Oxenham, John. "New Opportunities for Change in Primary Schooling." *Comparative Education Review*, Vol. 20, No. 2, 1984.

Psacharopoulos, George. "The Economics of Higher Education in Developing Countries." *Comparative Education Review*, Vol. 26, No. 2, June 1982, pp. 139–159.

Ram, Rati. "Male–Female Differences in Educational Outcomes, with Special Reference to the Labor Market." Research Report prepared for the Ford Foundation, June 1979.

Ram, Rati. "Public Subsidization of Schooling and Inequality of Educational Access." *Comparative Education Review*, Vol. 26, No. 1, Feb. 1982, pp. 36–47.

Robinson, Wade M., Team Leader, et al. *Third Annual Report of the Study of USAID Contributions to the Egyptian Basic Education Program*. Vol. II. Washington, D.C.: Creative Associates, Feb. 1986.

Safilios–Rothschild, Constantina. "Adolescent Urban Girls in Developing Countries." International Center for Research on Women, Washington, D.C., Oct. 1982.

Safilios–Rothschild, Constantina. "Access of Rural Girls to Primary Education in the Third World: State of Art, Obstacles, and Policy Recommendations." Office of Women in Development, U.S. Agency for International Development, Washington, D.C., Oct. 1979.

Schiefelbein, Ernesto, and Joseph P. Farrell. "Women, Schooling, and Work in Chile: Evidence from a Longitudinal Study." *Comparative Education Review*, Vol. 24, No. 2, Part 2, June 1980, pp. 160–179.

Sherman, Joel D. "Equity in School Finance: A Comparative Case Study of Sweden and Norway." *Comparative Education Review*, Vol. 24, No. 3, Oct. 1980, pp. 389–399.

Singh, Madhu. "How Equal are the Scheduled Castes? Some Aspects of their Educational Development." Bulletin of the I.I.E., no date.

Sivard, Ruth Leger. "Women: A World Survey." Washington, D.C.: World Priorities, 1985.

Smith, Peter C., and Paul P.L. Cheung. "Social Origins and Sex-Differential Schooling in the Philippines." *Comparative Education Review*, Vol. 25, No. 1, Feb. 1981, pp. 28–42.

Tilak, Jandhyala B.G., and N.V. Varghesa. "Discriminatory Pricing in Education." Occasional Paper No. 8, National Institute of Educational Planning and Administration, New Delhi, 1985.

Tinker, I., B.M. Bramsen. "Proceedings of the Seminar on Women and Development." *Women and World Development*, ed. I. Tinker and B.M. Bramsen, Washington, D.C., American Association for Advancement of Sciences, 1975, pp. 138–218.

UNESCO. Fourth Consultation of Member States on the Implementation of the Convention and Recommendations Against Discrimination in Education: Report on the Committee on Conventions and Recommendations." Sofia, Aug. 1985.

Walters, Pamela Barnhouse. "Educational Change and National Economic Development." *Harvard Educational Review*, Vol. 51, No. 1, Feb. 1981, pp. 94–106.

Wang, Bee-Lan Chan. "Sex and Ethnic Differences in Educational Investment in Malaysia: The Effects of Reward Structures." *Comparative Education Review*. Vol. 24, No. 2, June, 1980.

Wang, Bee-Lan Chan. "Positive Discrimination in Education: A Comparative Investigation of its Bases, Forms and Outcomes." *Comparative Education Review*, Vol. 27, No. 2, June 1983.

Waweru, Julius Macharia. "Socio-Economic Background as an Influence Factor in Pupils' Achievement in Primary Schools in Embu District, Kenya." *African Studies in Curriculum Development and Evaluation*, No. 69. African Curriculum Organization. Kenya Institute of Education, Nairobi, 1982.

Weis, Lois. "Education and the Reproduction of Inequality: The Case of Ghana." *Comparative Education Review*, Feb. 1979, pp. 41–51.

White, Benjamin, and Endang Lestari Hastuti. "Different and Unequal: Male and Female Influence in Household and Community Affairs in Two West Javanese Villages". Project on Rural Household Economics and the Roles of Women. Centre for Rural Sociological Research, Bogor Agricultural University, Feb. 1980.

Winter, Carolyn. "The Provision of Appropriate Education in Selected South African Countries: Malawi, Zimbabwe, Namibia, and the 'Independent' South African Homelands." Paper presented at the International Conference on Education in the 90's "Equality, Equity and Excellence in Education," Dec. 1984.

The World Bank. "The Best School Investments? More on quality and more on rural areas, at least in Brazil." *Research Brief*, Vol. 6, No. 2, Fall 1985.

The World Bank." Education Strategies for Sub-Saharan Africa." Draft Report, Dec. 1985.

UNHCR, "Overview of UNHCR Educational Assistance," internal paper, Geneva, June 17, 1986.

Woodrow, Peter J. "Nomad Program: Tin Aicha, Mali," International Relief/Development project, Harvard Graduate School of Education, Cambridge, MA., July 1987.

Yadav, R.K. "Tasks Ahead for Indian Education." *Comparative Education Review*, Vol. 16, No. 3, Oct. 1980.

Youssef, Nadia H. "Education and Female Modernism in the Muslim World." *Journal of International Affairs*, 30, 2 (1976), pp. 191–205.

Supplementary Bibliography

Abeje, Haile Yesus. "How to Provide Universal Schooling." *Prospects*, Vol. 13, No. 2 (1983), pp. 245–249.

Adams, Milton N., and Susan E. Kruppenbach. "Some Issues of Access and Equity in the Education of African Females: Progress and Prospects." Forthcoming in the Working Paper Series on Women in International Development, Michigan State University, April 1986.

"AID and Education: A Sector Report on Lessons Learned." AID Program Evaluation – Report No. 12, Jan. 1984.

"Agency for International Development Sector Strategy: Education." U.S. Agency for International Development, Washington D.C., Aug. 1983.

Anderson, Mary B. "Gender Issues in Basic Education and Vocational Training." Office of Women in Development, U.S. Agency for International Development Office, Washington, D.C., Sept. 1986.

Arnove, Robert F. "A Comparison of the Chinese and Indian Education Systems." *Comparative Education Review*, Vol. 28, No. 3, August, 1984, pp. 378–401.

Bereday, George Z. F. "The Law and Exclusion from Schools in Comparative Perspective." *Comparative Education Review*, Vol. 24, No. 2, Part 1, June 1980.

Carloni, Alice Stewart. "Lessons Learned 1972–1985: The Importance of Gender for AID Projects." Draft Report prepared for U.S. Agency for International Development, Washington, D.C., Oct. 1985.

Carnoy, Martin. "Education for Alternative Development." *Comparative Education Review*, Vol. 26, No. 2, June 1982.

Cochrane, Susan H., et al. "The Effects of Education on Health." World Bank Staff Working Paper, No. 405, July 1980.

Creative Associates. Second Annual Report for the Study of USAID Contributions to the Egyptian Basic Education Program. Washington, D.C. Sept. 1985.

Creative Associates. Summary of the Second Annual Report for the Study of USAID Contributions to the Egyptian Basic Education Program. Washington, D.C. Sept. 1985.

Development Alternatives, Inc. *A Seven Country Survey on the Role of Women in Rural Development.* Report prepared for Agency for International Development. Washington, D.C., Dec. 1974.

Drenth, Peter J.D., Hank van der Flier, and Issa M. Omari. "Educational Solution in Tanzania." *Evaluation in Education*, Vol. 7, 1983, pp. 93–198.

Elgqvist-Saltzman, Inga, Annika Forsslund, and Keiko Sampei. "The 1985 Symposium of the Nordic Association for the Study of Education in Developing Countries on North–South Education Research Cooperation and Dissemination of Research Results." Department of Education, University of Umea, Sweden, 1985.

Elliott, Carolyn M., and Gail P. Kelly. "Introduction: Perspectives on the Education of Women in Third World Nations." *Comparative Education Review*, Vol. 24, No. 2, Part 2, June 1980.

Farquhar, William W., Nat J. Culletta, and Donald F. Enos. "Towards a More Efficient Primary Education System: An Experimental Approach to the Problem of Drop-out and Repetition." Study conducted on behalf of U.S. Agency for International Development by American Association of Colleges for Teacher Education, Washington, D.C., March 1976.

Flores, Pedro V. "Educational Innovation in the Philippines: A Case Study of Project Impact." Ottawa, Canada: International Development Research Centre, 1982.

Hermalin, Albert I., Judith A. Seltzer, and Ching-Hsiang Lin. "Transitions in the Effect of Family Size on Female Educational Attainment: The Case of Taiwan." *Comparative Education Review*, Vol. 26, No. 2, June 1982, pp. 254–270.

Heyneman, Stephen P., and Dean T. Jamison. "Student Learning in Uganda: Textbook Availability and other Factors." *Comparative Education Review*, Vol. 24, No. 2, Part 1, June 1980, pp. 206–222.

Heyneman, Stephen P., and William A. Loxley. "The Distribution of Primary School Quality within High- and Low-Income Countries." *Comparative Education Review*, Vol. 27, No. 1, Feb. 1983, pp. 108–118.

Hoque, Naseem. "Non-Formal Education for Women in Bangladesh." With emphasis on agency and organizational programs serving economically disadvantaged women. Paper prepared for U.S. Agency for International Development. Series: Michigan State University. 1976.

Kay, Stafford. "Early Educational Development in East Africa: A Case Study." *Comparative Education Review*, Vol. 23, No. 1, Feb. 1979, pp. 66–81.

Lee, Kye-Woo. "Equity and an Alternative Educational Method: A Korean Case Study." *Comparative Education Review*, Vol. 25, No. 1, Feb. 1981, pp. 45–63.

Lembert, Marcella. "The Impact of Mother's Beliefs, Expectations and Attributions on Children's Primary School Drop-out: A Case Study on Low Socio-Economic Status Urban Mexico." Unpublished paper, Stanford University, Nov. 1981.

Lupidi, Helena R. "A Comparative Analysis of the Factors Associated with Career Aspirations of Brazilian Students by Sex and Grade Level." U.S. Agency for International Development, Washington, D.C., 1976.

Mante, Rosetta F. "Multiple Outcomes and Perspectives in the Evaluation of Project Impact." *Teaching Yourself in Primary School: Report of a Seminar on Self-Instructional Programs*. Ottawa, Canada: International Development Research Centre, 1982, pp. 72–80.

McGinn, Noel F. "Data Requirements for Research Projects." Paper prepared for BRIDGES Project, Harvard University, May 1986.

Nash, Roy. *Schooling in Rural Societies*. London, New York: 1980. Methuen (Contemporary Sociology of the School).

Navia-Melbourn, Olga, and Julia MacKenzie. "Women in Development and the Project Cycle: A Workbook." Canadian International Development Agency, Ottawa, June 1986.

Nichols, Daryl G. "Low-Cost Learning Systems: The General Concept and Some Specific Examples." *NSPI Journal*, Sept. 1982.

Nji, Ajaga and Katherine L. "Why My Mother Died Illiterate: For an Appropriate Technology in Adult Literacy Programs in Cameroon." *IFDA Dossier* 46, March/April 1985, pp. 3–14.

Office of Women in Development, U.S. Agency for International Development. "Illustrative Statistics on Women in Selected Developing Countries." U.S. Department of Commerce, Bureau of the Census, Washington, D.C., June 1980.

Office of Women in Development, U.S. Agency for International Development. "Women in Development: The First Decade, 1975–1984." Report to the Committee on Foreign Relations, U.S. Senate and the Committee on Foreign Affairs, U.S. House of Representatives. Washington, April 1985.

Othman, Ghazali, and K. Loganathan. "Assessing the Impact and Effectiveness of Project Inspire's Educational Materials." *Teaching Yourself in Primary School: Report of a Seminar on Self-Instructional Programs*. Ottawa, Canada: International Development Research Centre, 1982, pp. 49–59.

Singhal, Sushila. "The Development of Educated Women in India: Reflections of a Social Psychologist." *Comparative Education*, Vol. 20, No. 3, 1984, pp. 355–370.

Stromquist, Nelly P. "Empowering Women through Knowledge: Policies and Practices in International Cooperation in Basic Education." Report prepared for UNICEF. June 7, 1986.

Thiagarajan, Sivasailam, and Aida L. Pasigna. "Final Contractor's Report: Improved Efficiency of Learning (IEL) Project." McLean, VA: Institute for International Research, Inc., 1986.

Tuppen, C.J., and Brian Deutsom. "Comparison of Educational Standards of Achievement when Opportunities for Education are Unequal." *Comparative Education Review*, Vol. 26, No. 1, 1982, pp. 69–77.

Wang, Bee-Lan Chan. "Educational Reforms for National Integration: The West Malaysian Experience." *Comparative Education Review*, Vol. 22, No. 3, Oct. 1978, pp. 464–479.

Weigand, Pablo. "Education and Social Class, Disparity and Conflict in Latin America, with Special Reference to Minority Groups in Chile." *Comparative Education*, Vol. 19, No. 2, 1983, pp. 213–218.

Wilson, Michael. "Retentivity of Educational Standards of Achievement." *Comparative Education Review*, Vol. 28, No. 3, Aug. 1984, pp. 485–490.

The World Bank. "Notes on Education for Females." Office of the Advisor on Women in Development, March 1981.

"World Development Forum," Vol. 4, No. 21, Nov. 30, 1986. The Hunger Project, Washington, D.C.

For more information about this or other BRIDGES documents, please contact:

BRIDGES Publications
Gutman 442
Harvard University
Cambridge, MA 02138
USA
(617) 495-9720

or

USAID
Office of Education
Bureau for Science and Technology
Department of State
Washington, D.C. 20523 USA
(703) 235-8980

A program of:
USAID, Bureau for Science & Technology

Directed by:
The Harvard University Institute for International Development
and the Harvard Graduate School of Education

In Cooperation with:
Academy for Educational Planning and Management, Pakistan
Centre de Perfectionnement et de Formation en Cours d'Emploi
Institute for International Research
Michigan State University
The Open University, Indonesia
Research Triangle Institute
Texas Southern University
National Education Commission of Thailand
National Institute of Education, Sri Lanka
USAID Missions and Ministries of Education in Burundi, Egypt, Indonesia, North Yemen, Pakistan, Sri Lanka, and Thailand